

Serial No.: 09/903,210
Art Unit: 2872

Attorney's Docket No.: SUZ0008-US
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IN THE SPECIFICATION:

Please replace the first full paragraph on page 30, the paragraph starting at the end of page 35 and continuing onto page 36, the first full paragraph on page 36, the second full paragraph on page 49, the first full paragraph on page 50, the paragraph starting on page 51 and continuing onto page 52, the first full paragraph on page 52, the paragraph starting on page 57 and continuing onto page 58, the paragraph starting on page 60 and continuing onto page 61, the paragraph beginning on page 61 and continuing onto page 62, the paragraph starting on page 62 and continuing onto page 63, and the abstract as follows.

IN THE CLAIMS:

Please cancel claim 2-4, 6, and 7 without prejudice or disclaimer and amend claims 1, 5, 8, 9, 11, 12, and 16 as shown in the attached sheets.

REPLACEMENT SPECIFICATION PARAGRAPH

Please enter the following replacement specification paragraphs.

Please replace the first full paragraph on page 12 as follows:

G' For example, the polarizing plates disposed on the openings of the light shield plate are arranged in such a manner that the vibration planes of the lights that have passed through the polarizing plates are orthogonal to each other, and the orientation of the selection polarizing plate is arranged in such a manner that the vibration plane of the light that has passed through the selection polarizing plate coincides with any one of the vibration planes of the lights that have passed through said polarizing plates. The polarizing plate alternately takes a state in which the vibration plane of the polarized light is allowed to pass as it is without rotating and a state in which the vibration plane of the polarized light is rotated by 90°. With the above structure, the above-mentioned passing light selecting means can be realized.

Please replace the first full paragraph on page 30 as follows:

G' In this embodiment, the liquid crystal plate 120 allows the light to pass therethrough without changing the orientation of its vibration plane if the voltage is any one of on/off, and allows the light to pass therethrough after rotating the orientation of the vibration plane if the voltage is the other of on/off. In this embodiment, the liquid crystal plate 120 allows the light to pass therethrough without any change if the power supply is off, and allows the light to pass

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G2

therethrough after rotating the vibration plane by 90° if the power supply is on, although the present invention is not limited to this structure.

Please replace the first full paragraph on page 32 as follows:

G3

The visual angle α is set in accordance with the degree of the roughness of an object to be subjected to stereoscopic vision and the circumstances that how the stereoscopic effect given to the viewer is going to be set. For example, if the stereoscopic effect is going to be large, the visual angle α may be set to be large. In general, the degree of the visual angle α is set to about 6 to 14 degrees.

Please replace the paragraph starting at the end of page 35 and continuing onto page 36 as follows:

G4

In this example, the liquid crystal plate 120 alternately repeats a state in which the vibration plane of the light that has passed through the liquid crystal plate 120 is rotated by 90° and a state in which the light that has passed through the liquid crystal plate 120 passes as it is while repeating the on/off operation of the voltage supply under the control by the control section 130.

Please replace the first full paragraph on page 36 as follows:

G5

In the case where the liquid crystal plate 120 is in the state where the vibration plane of the light that has passed through the liquid crystal plate 120 is rotated by 90° , the image light for

contd
G3

the left eye whose vibration is directed forward and backward with respect to the paper surface of Fig. 1 changes the direction of its vibration plane to the right and left direction with respect to the paper surface by passing through the opening 221A. On the other hand, the image light for the right eye whose vibration is directed rightward and leftward with respect to the paper surface of Fig. 1 changes the direction of its vibration plane to the forward and backward direction with respect to the paper surface by passing through the opening 221B.

Please replace the second full paragraph on page 49 as follows:

G4

In this embodiment, the liquid crystal plates 120 allow the lights to pass therethrough as they are if the power supply is off, and allow the lights to pass therethrough after rotating their vibration planes by 90° if the power supply is on although the present invention is not limited to this structure.

Please replace the first full paragraph on page 50 as follows:

G1

Then, the image light for the left-eye image and the image light for the right-eye image which have been polarized into the linear polarized lights reach the liquid crystal plates 120, respectively. Each of the liquid crystal plates 120 continuously takes the state in which the light is allowed to pass through the liquid crystal plate 120 without changing the orientation of the vibration plane and the state in which the light is allowed to pass through the liquid crystal plate 120 after rotating the vibration plane by 90°, as described above.

Please replace the paragraph starting on page 51 and continuing onto page 52 as follows:

Qd
In the case where each of the liquid crystal plates 120 is in the state where the light is allowed to pass through the liquid crystal plate 120 after rotating its vibration plane by 90° , the image light for the left-eye image and the image light for the right-eye image are directed to the selection polarizing plates 125 disposed in the respective optical paths after changing the orientations of the vibration planes to the forward and backward directions with respect to the paper surface. In this embodiment, as described above, the selection polarizing plates shield the component directed forward and backward with respect to the paper surface among the light components, and allow a component directed rightward and leftward with respect to the paper surface to pass through the selection polarizing plates. Accordingly, the image light for the left-eye and the image light for the right-eye which are the linear polarized lights having the vibration planes directed forward and backward with respect to the paper surface are shielded by the selection polarized plates 125.

Please replace the first full paragraph on page 52 as follows:

Qd
Consequently, in this embodiment, in the case where the liquid crystal plates 120 are in the state where the lights are allowed to pass through the liquid crystal plates 120 after rotating their vibration planes by 90° , both of the image light for the left-eye image and the image light for the right-eye image are not picked up without reaching the image pickup device 110.

Please replace the first full paragraph on page 53 as follows:

GA The left-eye shutter means and the right-eye shutter means are independent from each other. Therefore, in the above-described example, the left-eye shutter means and the right-eye shutter means are identical in structure with each other, but may be different in structure from each other if the image light for the left eye and the image light for the right eye are alternately guided to the image pickup element 110. For example, even if one of the polarizers 222A and 222B is disposed with being rotated by 90° and the on/off control of the voltage supply to both the liquid crystal plates 120 are conducted at the same timing, the same stereoscopic image data as that in the above case can be produced.

Please replace the paragraph starting on page 57 and continuing onto page 58 as follows:

GA The case 510 is shaped into a box and accommodates the display screen 520, the polarizing plate 530, the polarization plane rotating plate 540, the visual field lens 550, the frame memory 610 and the control section 620 therein. A visual field hole 511 is defined in the case 510. The visual field hole 511 is so designed as to view the display screen 520 disposed in the interior of the case 510 from the visual field hole 511 to conduct the stereoscopic vision. Viewer side polarizers 512 and 513 are fitted into the visual field hole 511 so as to correspond to the positions of the left eye and the right eye of the viewer who conducts the stereoscopic vision, respectively. Each of the viewer side polarizers 512 and 513 polarizes the light that has passed through the polarizer into a polarized light having a given vibration plane. The viewer side polarizers 512 and 513 are so designed as to polarize the lights that have passed through the polarizers 512 and 513 into the polarized lights having the vibration planes different in

Contd
G11

orientation from each other. In this embodiment, the vibration planes of the lights that have passed through polarizers have the relationship of 90° . More specifically, the viewer side polarizer 512 is so designed as to polarize the light that has passed through the polarizer 512 into a polarized light having the vibration plane directed forward and backward with respect to the paper surface of Fig. 9, and the viewer side polarizer 513 is so designed as to polarize the light that has passed through the polarizer 513 into a polarized light having the vibration plane directed rightward and leftward with respect to the paper surface of Fig. 9.

Please replace the paragraph starting on page 60 and continuing onto page 61 as follows:

G12

In the polarization plane rotating plate 540 of this embodiment, the rotating plate 520A is formed of a plate resulting from thinly molding a $1/4$ wavelength plate which allows the light to pass through the plate after rotating the vibration plane of the polarized light by 90° , and the non-rotating plate 520B is formed of a plate resulting from thinly molding a resin which allows the light to pass through the plate without giving some influence on the vibration plane of the polarized light, and those rotating plates 520A and 520B are alternately disposed into a sheet.

Please replace the paragraph beginning on page 61 and continuing onto page 62 as follows:

G13

Of the display screen 520, the light emitted from the first region 520L for displaying the left-eye image passes through the polarizing plate 530 and is then polarized into the polarized light having the vibration plane directed forward and backward with respect to the paper surface

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G13

of Fig. 9. Since the image light passes through the rotating plate 520A and the vibration plane of the polarized light rotates by 90° , the vibration plane of the polarized light is directed rightward and leftward with respect to the paper surface of Fig. 9. That is, the image light from the left-eye image is polarized into the polarized light having the polarization plane directed rightward and leftward with respect to the paper surface of Fig. 9, and then transmitted toward the visual field hole 511 through the visual field lens 550.

Please replace the paragraph starting on page 62 and continuing onto page 63 as follows:

G14

In the polarization plane rotating plate 540 of this embodiment, the rotating plate 520A is formed of a plate resulting from thinly molding a $1/4$ wavelength plate which allows the light to pass through the plate after rotating the vibration plane of the polarized light by 90° , the non-rotating plate 520B is formed of a plate resulting from thinly molding a resin which allows the light to pass through the plate without giving some influence on the vibration plane of the polarized light, and those rotating plates 520A and 520B are alternately disposed into a sheet.

Please replace the abstract as follows:

ABSTRACT

G15
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B1

In a stereoscopic image pickup device, an image pickup device A accommodates one image pickup element 110 to which an image light for a left eye and an image light for a right eye for picking up a left-eye image and a right-eye image are guided, and one objective lens in a case. A light shield plate 220 having two openings defined is disposed between the image

pickup element 110 and the objective lens 210. Polarizers that polarize lights which have passed therethrough into linear polarized lights whose vibration planes are orthogonal to each other are fitted into those two openings. A liquid crystal plate 120 and a selection polarizing plate 125 are disposed between the objective lens and the image pickup element 110. The selection polarizing plate 125 polarizes a light that has passed therethrough into a linear polarized light whose vibration plane has the same orientation as that of the light that has passed through any one of the above-mentioned polarizers. The liquid crystal plate 120 alternately takes a state where the polarized light is allowed to pass through the liquid crystal plate 120 after rotating the vibration plane of the polarized light that has passed through the above-mentioned opening by 90 degrees and a state the polarized light is allowed to pass through the liquid crystal plate 120 as it is. As a result, the image lights that have passed those two openings are alternately picked up by the one image pickup element 110.

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